

## AMERICAN ERIGONEÆ: THE SPIDER GENERA PELECOPSISIDIS AND FLORICOMUS

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In earlier papers we have revised part of the Erigoneæ having hardened dorsal abdominal sclerites. (*Ceratinella* and *Ceraticelus* in N. Y. State Museum Bul. 264, 1925, and *Pelecopsis* in Jour. N. Y. Ent. Soc. 39: 381-388, 1931). In this paper we revise the remainder.

### **PELECOPSISIDIS** new genus

Type, *Lophocarenum frontalis* Banks.

This genus is related to *Pelecopsis* in having hardened sclerites on the abdomen and in having the embolic division of the spiral type with a long tail-piece. It differs in having all the eyes borne on the cephalic lobe. The cavity between the two lobes and lying below the anterior lateral eyes is not homologous with the postocular pits of *Pelecopsis*.

### ***Pelecopsisidis frontalis*** Banks

Figs. 1-6

*Lophocarenum frontalis* Banks. Jour. N. Y. Ent. Soc. 12: 111, pl. 5, fig. 1-3, 1904.

MALE. Length, 1.5 mm. Cephalothorax brownish yellow, lighter on the head and clypeus; viewed from above, evenly rounded on the sides and somewhat narrowed and pointed in front because of the protuberant clypeus; viewed from the side, evenly arched behind with the head strongly and abruptly elevated into a large cephalic lobe bearing all the eyes. Clypeus very strongly protuberant. The cephalic and clypeal lobes come together below the eyes leaving a pit just below the anterior lateral eyes.

Posterior eyes in a greatly recurved line, the median separated by a little more than the diameter and from the lateral by two-

thirds the diameter. Anterior eyes in a slightly procurved line, the median much smaller than the lateral, subcontiguous, separated from the lateral by the diameter. Sternum grayish brown, smooth and shining. Hind coxæ separated by a little less than the diameter. Endites grayish yellow, lighter at tip. Legs light brownish yellow, palpi yellow. Abdomen light gray.

Patella of palpus very long and thicker distally. Tibia short and broad, armed on the dorso-lateral angle with a long, broad round-pointed apophysis bearing on its mesal side an obtuse tooth. On the mesodorsal angle of the tibia there is a shorter process bearing two points. Paracymbium very small and strongly curved. The tail-piece of the embolic division consists of a foot-shaped enlargement that lies over the edge of the tegulum; at the base of the tail-piece there is a branch directed ventrally. Just beyond the base of this process the embolus arises, broad at base but soon narrowing to a black style which is arched over the end of the bulb. This becomes more slender and curves down behind the bezel and under the tail-piece, passes around back of the bulb and emerges on the lateral side; it then makes a loop and returns under the cymbium where it turns a wide loop emerging again at the base. It then turns distally and the tip lies under the first big turn of the embolus.

FEMALE. Length, 1.8 mm. Similar to male in color but the legs have more brown on the femora and tibiæ. Cephalothorax without lobes; viewed from the side, evenly arched over the back to the eyes. Clypeus straight, nearly vertical. Posterior eyes gently procurved, nearly equidistant, separated by the diameter. Anterior eyes in a gently recurved line, the median smaller than the lateral, nearly touching but separated from the lateral by a little less than the diameter. The epigynum is a convex plate; the receptacles show through the integument, well separated.

Type locality: Falls Church, Va.

Described from the types, 1 ♂ 4 ♀.

#### FLORICOMUS Crosby and Bishop

Florida Ent. 9: 33, 1925.

Type *F. floricomus* Crosby and Bishop, which equals *Pholcomma rostratum* Emerton.

We here place a group of species which have a hardened sclerite on the abdomen and in which the males do not have cephalic pits. They may be separated from *Ceratinella* and *Ceraticelus* by the lack of a spiral tail-piece in the embolic division of the bulb and from *Pelecopsidis* by the much shorter embolus and the form of the tibial apophysis. The species placed here agree in having the clypeus protuberant and clothed with hairs; the tibia of the male palpus has a thin projection that overlies the base of the paracymbium. The embolus arises from a bulb-like base—sometimes in the interior of the bulb.

*Floricomus nasuta* Emerton

Figs. 7-11

*Histagonia nasuta* Emerton. Conn. Acad. Sci. Trans. 16: 390, pl. 1, fig. 9, 1911.

MALE. Length, 1.5 mm. Thorax grayish yellow, head dusky. Cephalothorax viewed from above elongate, pointed in front, rounded on the sides to the cervical groove where there is a slight constriction, from this point the outline of the head has the sides slightly convex but strongly converging to the tip of the clypeal lobe, narrowly rounded at tip. Cephalothorax viewed from the side low and gently arched over the back to the cervical groove, then rounded over the moderately elevated head to the anterior median eyes. The clypeal lobe very strongly developed, clothed above and at tip with stiff hairs directed upward and backward; viewed from the side extending forward on a level with the base of the anterior median eyes, then convex and very strongly retreating.

Posterior eyes in a gently procurved line, the median separated by the radius and from the lateral by nearly the diameter. Anterior median eyes on the cephalic aspect of the head. When viewed from above the anterior eyes are in a recurved line, the median smaller than the lateral, narrowly separated from each other and from the lateral by more than the diameter.

Sternum broad and short, smooth and shining, yellow suffused with gray, much darker towards the edge. Hind coxæ separated by a little more than the diameter. Labium dark gray. Endites light yellow sprinkled with gray. Chelicerae grayish

yellow, rather weak. Legs yellow orange, coxæ, trochanters and base of femora lighter. Palpi same color as legs but lighter. Abdomen provided with a brownish orange strongly chitinized dorsal sclerite which is clothed with numerous recumbent stiff hairs. Epigastric sclerite not well developed. Inframammillary sclerite distinct but weakly chitinized, confined to the ventral side of the spinnerets. Soft parts of abdomen gray.

Femur of palpus nearly straight, slender; patella gently curved. Ratio of length of femur to that of patella as 15 to 6. Tibia as long as patella, armed dorsally with a very high quadrate ridge as in *plumalis*; the claw-like tooth is lacking but its position is marked by a minute black denticle. Laterally from this ridge the edge of the tibia is thin and smooth, the edge is nearly straight, not produced into an apophysis lying over the base of the cymbium as in *plumalis*. There are two strong spines on the edge as in *plumalis*. Paracymbium slender, strongly hooked at tip. Cymbium short, deeply excavated at base on the lateral side. Bezel has the edge produced into a long, sharp point directed ventrally. The embolus is like that of *plumalis* in structure and follows the same course.

FEMALE. Length, 1.6 mm. Similar to the male in form and color; the cephalothorax is broader and the head normal. Posterior eyes in a slightly procurved line, the median separated by two-thirds the diameter and from the lateral by one-half as much. Anterior eyes in a nearly straight line, the median smaller than the lateral, separated by less than the radius and from the lateral by the radius. Clypeus gently convex and slightly protruding. In both sexes the dorsal abdominal sclerite is relatively smaller than in *plumalis*.

Epigynum has the middle lobe narrower than in *plumalis*.

Type locality: Three Mile Island, Lake Winnepesaukee, N. H.

New York: Great Pond, Riverhead, May 23, 1924, 1 ♂; Riverhead, June 20, 1934, 1 ♂ 2 ♀.

New Jersey: Millville, June, 1925, 1 ♀ (Fletcher).

District of Columbia, Washington, March 25, 1925, 1 ♂ 2 ♀.  
H. C. Barber. In sphagnum moss.

**Floricomus nigriceps** Banks

Figs. 12-16

*Ezechophysis nigriceps* Banks. Ent. Soc. Wash. Proc. 7: 97, pl. 2, fig. 10, 11, 1905. (Author's extras published Jan. 11, 1906.)

MALE. Length, 1.3 mm. Cephalothorax brownish yellow, much darker on the head, rather broad, rounded on the sides, slightly constricted back of the head; head rounded on the sides and in front. Cephalothorax viewed from the side gradually ascending to the cervical groove; head strongly elevated, rounded over the top. Clypeus extremely wide, very convex, strongly protruding in front of the eyes, the lower part strongly retreating. Chelicerae small and retreating. Upper half of clypeus clothed with short hairs directed upward.

Posterior eyes in a straight line, the median a little nearer each other than to the lateral. Anterior eyes in a straight line, the median much smaller than the lateral, subcontiguous but well separated from the lateral.

Sternum grayish brown, broad and short. Hind coxae separated by their width but not by their length. Labium same color as sternum, very wide; endites lighter. Legs brownish yellow, coxae and patellae lighter.

Abdomen covered by a large brownish sclerite. Ventral sclerites not developed. Soft parts gray.

Palpus not in good condition, somewhat expanded. Tibia armed with a high longitudinal dorsal ridge the edge of which is armed with minute setigerous tubercles. Laterally from this ridge the margin is depressed, thin and semitransparent, a strong spine on tibia on the ridge back of this depressed area opposite the paracymbium. The slender process figured by Banks over the base of the tarsus is not present in the right palpus. (Banks figured the left.) Paracymbium short, flat and provided with a large hook. The tail-piece of the embolic division is a short, rounded process which is attached to the enlarged base of the embolus. The embolus curves over the top of the bulb down on the lateral side and the tip lies near the pointed tip of the bezel which is black and spine-like.

Type locality: A swamp near Ithaca, N. Y.

Described from the type, 1 ♂.



**Floricomus plumalis** Crosby

Figs. 17-21

*Exechophysis plumalis* Crosby. Phila. Acad. Nat. Sci. Proc. 1905, p. 323, pl. 28, fig. 8, 13; pl. 29, fig. 1.

*Exechophysis palustris* Banks. Ent. Soc. Wash. Proc. 7: 97, pl. 2, fig. 4, 8, 9, 1905. (Author's extras published Jan. 11, 1906.)

*Histagonia palustris* Emerton. Conn. Acad. Sci. Trans. 14: 188, pl. 2, fig. 4, 1909.

MALE. Length, 1.4 mm. Cephalothorax dull orange-yellow suffused with gray, darker in the middle, on the edge and along the radiating furrows; viewed from above rather broad, the sides evenly rounded to opposite the first coxæ and then converging towards the front, rather narrowly rounded across the front; viewed from the side the thorax is rather low, gradually ascending and gently arched to the cervical groove where there is a broad but distinct depression, head elevated, rounded behind to the posterior eyes. Cephalic lobe broad and rounded, separated from the protuberant clypeal lobe by a distinct transverse groove, armed above with a median row of 3 or 4 stiff hairs. All the eyes borne on the cephalic lobe. Clypeus very wide and strongly convex, produced forward into a blunt rounded point which is densely clothed with stiff hairs directed upward.

Posterior eyes in a straight line, equal and equidistant, separated by a little less than the diameter. Anterior eyes in a straight line, the median smaller than the lateral, separated by the radius and from the lateral by the diameter.

Sternum brownish gray over orange, broad and short, produced between the hind coxæ into a broad inflexed point. Hind coxæ separated by less than the diameter. Labium same color as sternum. Endites orange-yellow suffused with gray. Legs and palpi yellow orange, patella lighter, posterior tibiæ darker.

Abdomen rather flattened, oval, a little pointed in front, provided with a brownish yellow orange dorsal sclerite covering the front three-fourths. The sclerite is shallowly punctate and clothed with short stiff hairs. Epigastric sclerite not well developed, a small area at the side and back of the epigastric

plates weakly chitinized and yellowish orange. Inframamillary sclerite more distinct, confined to the ventral side.

Femur of palpus rather short, strongly compressed. Patella rather large, stout, viewed from the side nearly triangular. Ratio of length of femur to that of patella as 12 to 8. Tibia large, stout and of complicated form, the mesal aspect is roughly rectangular. On the dorsal surface there is a very high longitudinal, nearly quadrate ridge armed on the lateral face with a small black incurved claw-like tooth and with the dorsal edge bearing a closely packed series of four small setigerous tubercles. Laterally from this ridge the tibia is hollowed out, thin and smooth and produced forward to fit into the excavation in the base of the cymbium, the tip of the process is slender, sinuate and bent upward along the edge of the excavation; near the lateral edge there are two long, stiff spines. Cymbium short and broad, deeply excavated at base on the lateral side. Paracymbium small, hooked at tip and hidden except at tip under the edge of the tibial process. Bezel strongly convex, moderately wide. The embolus long, slender, whip-like, arising from a bulb-like base which lies just under the edge of the cymbium. The embolus is curved in a complete circle on the end of the palpal organ, about half the way following the edge of the obliquely truncate cymbium.

FEMALE. Length, 1.5 mm. Similar to the male but the head is normal and the dorsal abdominal sclerite does not extend so far back. The cephalothorax is rather broad, evenly rounded on the sides to the cervical groove where there is a slight constriction, broadly rounded across the front.

Posterior eyes in a straight line, equal, the median separated by a little less than the diameter, a little closer to the lateral. Anterior eyes in a slightly procurved line, the median smaller than the lateral, separated by the radius and from the lateral by a little more. Clypeus gently convex and slightly protruding. Epigynum consists of a convex plate, the middle lobe short and broad, sides slightly convergent posteriorly, square behind; on each side there is a semicircular opening on the hind margin.

Type locality: Ithaca, N. Y.

New Hampshire: Three Mile Island, Lake Winnepesaukee, May 25, 1905 (Emerton); May 20, 1905, 1 ♂ 1 ♀ (Bryant).

New York: Newfane, Oct., 1915, 1 ♀; Lake Keuka, April, 1904, 1 ♀; Enfield Glen, Tompkins Co., June 4, 1922, 1 ♂; Ithaca, 1 ♀ recorded by Banks as *Ceratinella brunnea*; July, 1 ♂; Nov., 3 ♀; May 19, 1 ♂; McLean, May 16, 1925, 1 ♂; Sylvan Beach, Aug., 1904, several ♀; Juanita Island, Lake George, Aug. 5, 1920, 2 ♂ 10 ♀; July 22, 1920, 1 ♂; Whetstone Gulf, Lewis Co., Sept. 2, 1926, 1 ♂; Chapel Pond, July 19, 1925, 1 ♂.

Missouri: Columbia, Feb., 1905, 2 ♂; Oct., 2 ♂; Nov., 5 ♂ 7 ♀; Dec., 1904, 3 ♂ 3 ♀.

Louisiana: Shreveport, 3 ♀ (Banks).

Illinois: Salts, May 24, 1926, 1 ♂ (Smith).

This species is not closely related to *Ecechophysis*. *E. bucephalus* Cambr., the type of that genus, has cephalic pits in the male and the tail-piece of the embolic division is long as in *Ceraticelus*. The abdomen has the dorsal sclerite strongly developed. It is evidently closely related to *Lophocarenum*. The present species, *plumalis*, lacks the cephalic pits and the base of the embolic division is bulb-like, without a tail-piece.

#### ***Floricomus praedesignatus* new species**

Figs. 22-24

MALE: Length, 1.2 mm. Cephalothorax dull yellow strongly suffused with dusky, darker at the margin, viewed from above evenly rounded on the sides with a slight depression at the cervical groove, narrowed and gently convex towards the bluntly pointed snout; viewed from the side, low posteriorly, gently arched to the base of the cephalic lobe, steeply ascending and rounded over the head. Clypeus developed into a strongly protuberant lobe which is separated from the cephalic lobe by a deep transverse fissure. Clypeus thickly clothed with a group of stiff, plumose, erect hairs curved upward. Sternum dull yellow, strongly suffused with dusky, darker at the margin, broad, moderately convex, smooth and shining, broadly produced between the hind coxæ, which are separated by a little more than the diameter. Endites dull yellow. Legs orange yellow. Abdomen armed with a small, irregular, poorly chitinized dorsal sclerite. General color gray. Femur of palpus moderately long, nearly straight, gradually widened distally. Patella short. Ratio of length of femur to that of patella as 15 to 8. Tibia very similar to that of *plumalis* except that the lateral margin is not produced into a black sinuous tooth. The edge is almost straight, thin, semi-transparent. The bulb is almost exactly as in *plumalis*.



Holotype, male, Penn Yan, N. Y., July 5, 1926.

New York: McLean, May 16, 1925, 1 ♂.

**Floricomus pythonicus** Crosby and Bishop

Figs. 25-28

*Floricomus pythonicus* Crosby and Bishop. Florida Ent. 9: 35, fig. 5-7, 1925.

MALE. Length, 1.2 mm. Cephalothorax evidently orange suffused with dusky; viewed from above, evenly and broadly rounded on the sides with only a slight constriction at the cervical groove, then gently converging and a little convex to the broadly rounded clypeus. The cephalic lobe rather narrow, rounded behind and in front. Cephalothorax viewed from the side abruptly rounded up behind to the cervical groove, more gradually ascending to the base of the cephalic lobe, which is abruptly elevated and rounded over the back to the posterior median eyes. Median ocular area slanting steeply forward. Clypeus produced above into a pointed lobe below which it is concave and slightly protruding. Clypeal lobe clothed above with erect, curved hairs, parted in the middle. Sternum broad, somewhat convex, bluntly rounded between the posterior coxæ. Endites dull yellowish suffused with dusky. Abdomen covered by a heavy scutum and clothed with stout depressed hairs.

Posterior eyes in a straight line, equal and equidistant, separated by the diameter. Anterior eyes in a slightly procurved line, the median smaller than the lateral, separated by the radius and from the lateral by the diameter.

Femur of palpus nearly straight, cylindrical. Patella short, wider distally. Ratio of length of femur to that of patella as 11 to 7. Tibia short ventrally, dorsally produced into a very high, longitudinal ridge, rounded over in front, the ventral angle acute and bearing a small, stiff hair, a row of similar hairs on the rounded dorsal and anterior margin. On the lateral side the margin of the tibia covers all but the tip of the paracymbium with a quadrate lobe at the distal corner of which there is a stiff hair, and another just back of it. On the lateral side of the dorsal process there is a rectangular, thin, semitransparent tooth which is separated from the lateral lobe by a very deep notch.

Just inside there is a curved band which ends in a sharp point ventrally. The fine style-like embolus arises in the interior of the bulb, makes a turn along the edge of the tip of the cymbium, the tip lies close to the bezel.

Type locality: Palm Beach, Fla., 1 ♂, March, 1919, (Thomas Barbour) from the stomach of *Bufo quercicus* Holbrook.

Redescribed from the type.

### *Floricomus rostratus* Emerton

Figs. 29-34

*Pholcomma rostratum* Emerton. Conn. Acad. Sci. Trans. 6: 30, pl. 6, fig. 5, 1882.

*Histagonia nasuta* Simon. Hist. Nat. Ar. 1: 585, 1894.

*Floricomus floricomus* Crosby and Bishop, Florida Ent. 9: 33, fig. 1-4, 1925.

MALE. Length, 1.6 mm. Cephalothorax orange with darker radiating lines, cephalic lobe lighter; viewed from above broadly and evenly rounded without a constriction at the cervical groove, then converging to the truncated front; viewed from the side gently ascending behind to the cervical groove where there is a shallow depression, then broadly and evenly rounded over the cephalic lobe to the frontal horn. Clypeus produced just below the eyes in a stout horn which projects forward and slightly upward. It is armed in front and on the dorsal surface with a cluster of long, slender, capitate hairs. The tip of each hair is flattened, bent back sharply and divided into three narrow lobes (Fig. 33). The clypeus below the horn slightly concave and nearly vertical. Sternum reddish orange lightly suffused with dusky, darker at the margin, strongly convex, smooth and shining, rather broadly produced between the hind coxæ which are separated by the diameter. Labium, endites and coxæ the same color. Legs bright orange. Abdomen covered with a large orange sclerite clothed with large appressed hairs.

Posterior eyes in a straight line, equal, the median separated by the diameter and from the lateral by a little less. Anterior eyes in a procurved line, the median slightly smaller than the lateral, separated by a little less than the diameter and from the lateral by a little more.

Femur of palpus moderately long and stout, nearly straight,

slightly widened distally. Patella proportionally long and rather stout, straight, armed laterally with six stiff hairs and on the mesal side with seven hairs. Ratio of length of femur to that of patella as 20 to 13. Tibia short, dorsally compressed to form a thick ridge which ends in a blunt rounded point. On the lateral side of this process there are six or seven stiff spines and dorsally in the median line there are three similar spines. The lateral margin of the tibia thin and depressed; the edge is smooth but next to the base of the dorsal ridge there is a thin, spatulate process which arises on the inner surface of the hollowed-out tibia, only the rounded tip being visible except as it shows through the thin, semitransparent, depressed margin. Near the lateral margin there are two long, stiff, stout spines. The paracymbium is entirely under the edge of the tibia except at the tip, which is very strongly hooked. The bezel is produced ventrally into a sharp, spine-like, tooth. The embolus arises in the interior of the bulb, is hooked over the end of the bulb, then follows the truncate edge of the cymbium, the tip lying behind the edge of the bezel.

FEMALE. Length, 1.8 mm. Similar to the male but the head is normal. Dorsal abdominal scutum does not extend back so far as in male. Posterior eyes in a very slightly procurved line, equal, the median separated by the diameter and from the lateral by two-thirds the diameter. Anterior eyes in a slightly procurved line, the median only slightly smaller than the lateral, equidistant, separated by the radius. The epigynum is a transverse oval plate, slightly convex, with a very small middle lobe.

The specimen that we described as *floricornis* is much smaller than northern examples but agrees with them in all the essential characters of the palpus. The clypeal process is longer, more slender, and directed upward so that the tip is higher than the head. The modified hairs on this process are longer and directed upward instead of being curved downward. This is evidently a southern variety of the species.

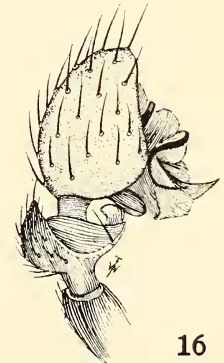
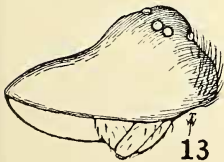
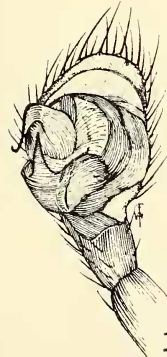
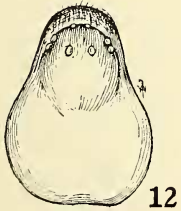
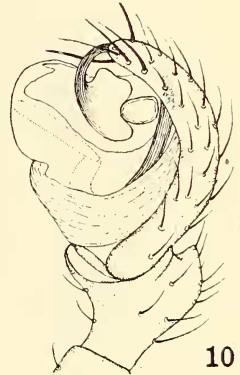
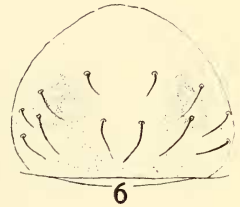
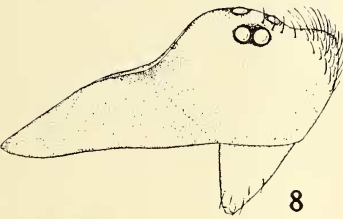
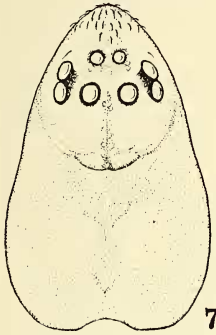
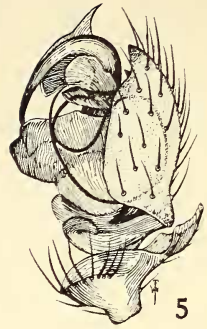
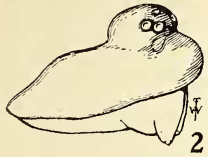
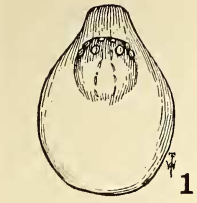
Type localities: Waltham and Watertown, Mass.

Connecticut: Lyme, Oct. 5, 1913, 2 ♂♂, in straw on salt marsh (Emerton).

Georgia: Okefinokee Swamp, May 28, 1922, 1 ♂, in stomach of *Bufo quercicus* Holbrook (A. H. Wright).

## PLATE V

1. *Pelecopsidis frontalis* ♂ cephalothorax, dorsal view.
2. *Pelecopsidis frontalis* ♂ cephalothorax, lateral view.
3. *Pelecopsidis frontalis* ♂ left palpus, dorsal view.
4. *Pelecopsidis frontalis* ♂ left palpus, mesal view.
5. *Pelecopsidis frontalis* ♂ left palpus, lateral view.
6. *Pelecopsidis frontalis* ♀ epigynum.
7. *Floricomus nasuta* ♂ cephalothorax, dorsal view.
8. *Floricomus nasuta* ♂ cephalothorax, lateral view.
9. *Floricomus nasuta* ♂ right palpus, dorsal view.
10. *Floricomus nasuta* ♂ right palpus, mesal view.
11. *Floricomus nasuta* ♀ epigynum.
12. *Floricomus nigriceps* ♂ cephalothorax, dorsal view.
13. *Floricomus nigriceps* ♂ cephalothorax, lateral view.
14. *Floricomus nigriceps* ♂ right palpus, dorsal view.
15. *Floricomus nigriceps* ♂ right palpus, ventral view.
16. *Floricomus nigriceps* ♂ right palpus, dorso-lateral view.

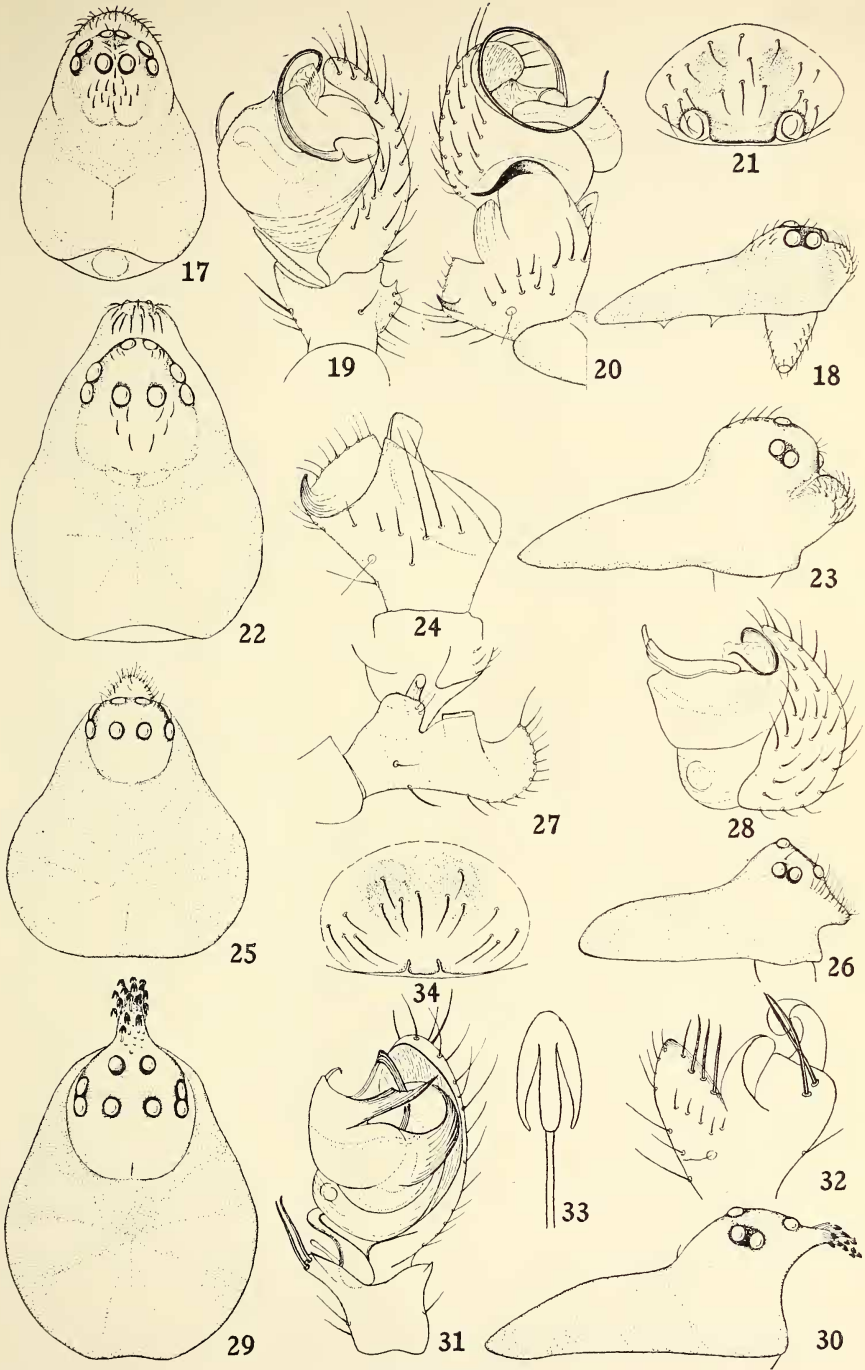


ERIGONEÆ



## PLATE VI

17. *Floricomus plumalis* ♂ cephalothorax, dorsal view.
18. *Floricomus plumalis* ♂ cephalothorax, lateral view.
19. *Floricomus plumalis* ♂ right palpus, mesal view.
20. *Floricomus plumalis* ♂ right palpus, lateral view.
21. *Floricomus plumalis* ♀ epigynum.
22. *Floricomus praedesignatus* ♂ cephalothorax, dorsal view.
23. *Floricomus praedesignatus* ♂ cephalothorax, lateral view.
24. *Floricomus praedesignatus* ♂ right tibia, dorsal view.
25. *Floricomus pythonicus* ♂ cephalothorax, dorsal view.
26. *Floricomus pythonicus* ♂ cephalothorax, lateral view.
27. *Floricomus pythonicus* ♂ left tibia, lateral view.
28. *Floricomus pythonicus* ♂ end of bulb.
29. *Floricomus rostratus* ♂ cephalothorax, dorsal view.
30. *Floricomus rostratus* ♂ cephalothorax, lateral view.
31. *Floricomus rostratus* ♂ right palpus, meso-ventral view.
32. *Floricomus rostratus* ♂ tibia, dorsal view.
33. *Floricomus rostratus* ♂ capitate hair from horn.
34. *Floricomus rostratus* ♀ epigynum.



ERIGONEÆ